REMARKS

The application has been carefully reviewed in light of the Office Action mailed September 15, 2008. At the time of the Office Action, Claims 1, 3-10, 12, 13 and 15-20 were pending in this application. Claims 1, 3-10, 12, 13 and 15-20 were rejected.

Rejection of the Claims Under 35 U.S.C. § 103(a)

Claims 1 and 8 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over the admitted prior art (APA) in view of U.S. Patent No. 6,253,255 to Hyder (hereinafter "Hyder")

Applicants respectfully traverse the 103(a) rejections and submit that the references relied upon for rejecting the claims do not teach or suggest, individually or in combination, what is being claimed in independent Claims 1 and 8.

What is being claimed is a system for dynamic device driver support in an open source operating system. Specifically, what is being claimed addresses the problem of providing a driver having proprietary information concerning the hardware architecture of a manufacturer's computer system in an open source operating system. (Spec., p.9, lines 3-6) An advantage of what is being claimed is the use of pre-compiled driver modules as the computer hardware device(s) driver(s), such that the proprietary information of the manufacturer resides in the pre-compiled driver modules and is protected from disclosure in the open source environment. (Spec., p.6, lines 5-10) In this way, a user may modify or replace the kernel of an open source operating system and rebuild the device driver (by compiling an open-source service layer against the modified kernel) without disclosing the proprietary information residing in the pre-compiled driver modules. (Spec., p.6, lines 4-10) Because the device drive modules are pre-compiled and are in an executable format, it is difficult to identify the proprietary content within the module. (Spec., p.9, lines 1-5).

Hyder teaches transferring a plurality of data packets between a transport layer and a link layer device driver in a computer operating system. Hyder further teaches batching or transferring a plurality of data packets between a transport layer and a link layer in a network protocol stack of a computer system. (Hyder, Col. 3, lines 50-58) Hyder does not teach or suggest a method in which to provide compiled (in object code) proprietary software drivers unique to an associated computer hardware system and a service layer in open source code that can be readily compiled with a new operating system kernel while still retaining compatibility with the unchanged proprietary software drivers that are only supplied in compiled object code format. This claimed feature allows hardware specific software drivers to remain useable with the latest operating system software kernel, while still protecting the propriety design of the computer hardware.

Hyder merely addresses an invention that transfers data packets between a software transport layer and a software link layer device driver. There is no teaching or suggestion in Hyder about obtaining compatibility with a new operating system (kernel) by compiling a source code interface (*i.e.*, service layer) along with a new source code operating system kernel to produce an executable operating system with compatible drivers for a specific computer system(s). Nor does Hyder teach or suggest the combination of proprietary device driver modules in secure object code format that remains compatible with the open source service layer that is recompiled with the introduction of a new operating system supplied in source code to produce an updated run time operating system compatible with the original proprietary device driver modules, unchanged and always maintained in object code, for a specific computer system.

Applicants respectfully submit that the references relied upon do not teach or suggest, individually or in combination, "providing a device driver having at least one pre-compiled module in executable form and a service layer in open source form; and compiling the service layer against the kernel of the open source operating system after each modification to the kernel of the open source operating system, wherein the step of compiling the service layer against the kernel comprises the step of associating the naming convention of function calls in the kernel to the naming convention of expected function calls in the device driver; wherein the compiled service layer acts as an interface between the kernel of the operating system and the at least one pre-compiled executable module of the device driver, such that the kernel cannot access proprietary information of the pre-compiled executable module," as recited in independent Claim 1, and a device driver comprising "an executable module compiled from an open source service layer, and at least one pre-compiled executable module, wherein the executable module compiled from the open source service layer provides an interface between the kernel of the operating system and the at least one pre-compiled executable module, such that the kernel cannot access proprietary information of the pre-compiled executable module, such that the executable module compiled from the open source service layer receives kernel-specific function calls from the kernel of the operating system, wherein the executable module is compiled from the open source service layer following each modification to the kernel of the operating system, and wherein the kernel of the operating system and the executable module compiled from the open source service layer send and receive function calls according to the same naming convention," as recited in independent Claim 8.

Claims 3-7, 9, 10, 12, 13 and 15-20 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over the admitted prior art (APA) in view of Hyder, and further in view of Matia "Kernel Korner Writing a Linux Driver" pages 1-12 (hereinafter "Matia")

Applicants respectfully traverse the 103(a) rejections and submit that the references relied upon for rejecting the claims do not teach or suggest, individually or in combination, what is being claimed in independent Claims 1, 8 and 13, and all claims dependent thereto.

Matia describes drivers generally, but does not teach or suggest compiling drivers with a new operating system kernel. Matia concerns the recompilation of the device driver following a modification to the device driver. As an example, on page 8 of Matia, under the heading "Implementation of Driver Functions, the user is given instructions on "programming your own driver." These instructions continue through page 10 and concern steps for recompiling the driver following a modification to the driver itself. Additionally, on page 11 of Matia, the user is told that it is recommended that the driver be compiled alone before linking the kernel. This is not the same as compiling the service layer against the kernel, as required by independent Claims 1, 8 and 13 of the instant application. Additionally, Matia, on page 11, describes configuring the kernel after compiling the driver alone. Matia does not teach or suggest a requirement that the server layer be compiled against the kernel after each modification to the operating system kernel. Additionally, on page 11 of Matia, the user is told that it is recommended that the driver be compiled alone before linking the kernel. This is not the same as compiling the service layer against the kernel, as required by independent Claims 1, 8 and 13 of the instant application. Additionally, Matia, on page 11, describes configuring the kernel after compiling the driver alone. Thus Matia does not teach or suggest that the server layer be

compiled against the kernel after each modification to the kernel.

Applicants respectfully submit that the references relied upon to not teach or suggest, individually or in combination, what is being claimed in independent Claims 1, 8 and 13.

The rejection of dependent claims 3-7, 9, 10, 12 and 15-20 will not be discussed individually herein, as each of these claims depends, either directly or indirectly, from an otherwise allowable base claim.

Claims 3-7 depend from independent Claim 1, and contain all limitations thereof. Therefore, for at least the same analogous reasons that Claim 1 is allowable, Claims 3-7 are also allowable.

Claims 9, 10 and 12 depend from independent Claim 8, and contain all limitations thereof. Therefore, for at least the same analogous reasons that Claim 8 is allowable, Claims 9, 10 and 12 are also allowable.

Claims 15-20 depend from independent Claim 13, and contain all limitations thereof. Therefore, for at least the same analogous reasons that Claim 13 is allowable, Claims 15-20 are also allowable.

Arguments Relating to the Combination of the References Asserted

No Basis or Support Has Been Shown in the Rejection of the Claims That One Having Ordinary Skill in the Art at the Time of the Invention Would Be Motivated to Modify the References Relied Upon to Produce the Invention

To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that

claim against the prior art." In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). If an independent claim is nonobvious under 35 U.S.C. §103, then any claim depending therefrom is nonobvious. In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

Applicants respectfully submit that in making a determination of obviousness, "the prior art as a whole must be considered. The teachings are to be viewed as they would have been viewed by one of ordinary skill." In re Hedges, 783 F.2d 1038, 1041, 228 USPQ 685, 687 (Fed. Cir. 1986) (emphasis added). Throughout the rejections the assertion of "it would have been obvious to one of ordinary skill in the art at the time of the invention to combine" the various elements found in the references relied upon to produce the present invention is respectfully traversed. "It is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art." Id.

Pursuant to MPEP § 2144.03, incorporated by reference herein for all purposes, Applicants respectfully submit that no prior art reference documents have been disclosed nor asserted that would substantiate that one having ordinary skill in the art at the time of the invention would be motivated to modify the references relied upon to produce the present invention. Applicants respectfully submit that the references relied upon do not teach or suggest the new, novel and non-obvious advantages of what is recited in independent Claims 1, 8 and 13, and all claims dependant thereto. Applicants therefore respectfully traverse the following assertions made in the present Office Action:

At page 4, lines 6-9

> It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the APA and Hyder's system because Hyder's abstract layer would transfer data between device driver and operating system to minimize the impact of interruption to the host system (col. 5 lines 5-15).

Applicants respectfully request at least one prior art reference that would teach or suggest the contention that it would have been obvious to one of ordinary skill in the art to achieve what was stated above. Also Applicants respectfully submit that "minimizing the impact of interruption to the host system" has no relevance to the instant application as what is being claimed addresses an easy and reliable way of using existing proprietary legacy software device drivers of a computer system when that computer system is updated with a new operating system kernel.

At page 5, lines 3-6

> It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of APA, Hyder, and Matia's system because linking step would integrate the device drivers at runtime to communicate with the kernel.

Applicants respectfully request at least one prior art reference that would teach or suggest the contention that "linking step would integrate the device drivers at runtime to communicate with the kernel," based upon the references relied upon for rejecting the claims.

At page 6, lines 10-16

> It would have been obvious to one of ordinary skill in the art at the time the invention was made to determine whether a precompiled device driver associated with the kernel of the operating system existed and load it prior to compiling the open source service layer. One of ordinary skill in the art would have been motivated to check for the existence of a precompiled device driver and load it before compiling to save time and computational cycles, thereby allowing

the computer system to operate more efficiently.

Applicants respectfully request at least one prior art reference that would teach or suggest the contention "to determine whether a precompiled device driver associated with the kernel of the operating system existed and load it prior to compiling the open source service layer." Applicants respectfully submit that what is being claimed has to do with using pre-existing device drivers that are specific for and proprietary with an associated computer system. Such that these existing device drivers remain operationally compatible with new operating system kernels through an interface layer that is recompiled with the new operating system kernel into a run time operating system for use by the computer system. The recompilation process is performed only once at the first introduction of an operating system kernel upgrade. Thereafter, the compiled (object code) computer operating system, including the service layer as claimed, runs the computer system as efficiently as the object code has been compiled. Therefore what is being claimed facilitates compatibility of present legacy software drivers with newly introduced upgraded operating systems. Computer operating efficiently is not what is being advanced in the present application, rather ease in using legacy software drivers with new operating system kernels.

Applicants respectfully submit that the standard of review applied to findings of fact is the "substantial evidence" standard under the Administrative Procedure Act (APA). See *In re Gartside*, 203 F.3d 1305, 1315, 53 USPQ2d 1769, 1775 (Fed. Cir. 2000). See also MPEP § 1216.01. Official notice without documentary evidence to support an examiner's conclusion is permissible only in some circumstances. While "official notice" may be relied on, these circumstances should be rare when an application is under final rejection or action under 37 CFR 1.113. Official notice unsupported by documentary evidence should only be taken by the

examiner where the facts asserted to be well-known, or to be common knowledge in the art are capable of instant and unquestionable demonstration as being well-known. As noted by the court in *In re Ahlert*, 424 F.2d 1088, 1091, 165 USPQ 418, 420 (CCPA 1970), the notice of facts beyond the record which may be taken by the examiner must be "capable of such instant and unquestionable demonstration as to defy dispute" (citing *In re Knapp Monarch Co.*, 296 F.2d 230, 132 USPQ 6 (CCPA 1961)). In *Ahlert*, the court held that the Board properly took judicial notice that "it is old to adjust intensity of a flame in accordance with the heat requirement." See also *In re Fox*, 471 F.2d 1405, 1407, 176 USPQ 340, 341 (CCPA 1973) (the court took "judicial notice of the fact that tape recorders commonly erase tape automatically when new 'audio information' is recorded on a tape which already has a recording on it"). In appropriate circumstances, it might not be unreasonable to take official notice of the fact that it is desirable to make something faster, cheaper, better, or stronger without the specific support of documentary evidence. Furthermore, it might not be unreasonable for the examiner in a first Office action to take official notice of facts by asserting that certain limitations in a dependent claim are old and well known expedients in the art without the support of documentary evidence provided the facts so noticed are of notorious character and serve only to "fill in the gaps" which might exist in the evidentiary showing made by the examiner to support a particular ground of rejection. *In re Zurko*, 258 F.3d 1379, 1385, 59 USPQ2d 1693, 1697 (Fed. Cir. 2001); *Ahlert*, 424 F.2d at 1092, 165 USPQ at 421.

Applicants further submit that it is improper to take official notice of facts without citing a prior art reference where the facts asserted to be well known are not capable of instant and unquestionable demonstration as being well-known. For example, assertions of technical facts in the areas of esoteric technology or specific knowledge of the prior art must always be

supported by citation to some reference work recognized as standard in the pertinent art. *In re Ahlert*, 424 F.2d at 1091, 165 USPQ at 420-21. See also *In re Grose*, 592 F.2d 1161, 1167-68, 201 USPQ 57, 63 (CCPA 1979) ("[W]hen the PTO seeks to rely upon a chemical theory, in establishing a prima facie case of obviousness, it must provide evidentiary support for the existence and meaning of that theory."); *In re Eynde,* 480 F.2d 1364, 1370, 178 USPQ 470, 474 (CCPA 1973) ("[W]e reject the notion that judicial or administrative notice may be taken of the state of the art. The facts constituting the state of the art are normally subject to the possibility of rational disagreement among reasonable men and are not amenable to the taking of such notice.").

It is never appropriate to rely solely on "common knowledge" in the art without evidentiary support in the record, as the principal evidence upon which a rejection was based. *Zurko*, 258 F.3d at 1385, 59 USPQ2d at 1697 ("[T]he Board cannot simply reach conclusions based on its own understanding or experience-or on its assessment of what would be basic knowledge or common sense. Rather, the Board must point to some concrete evidence in the record in support of these findings."). While the court explained that, "as an administrative tribunal the Board clearly has expertise in the subject matter over which it exercises jurisdiction," it made clear that such "expertise may provide sufficient support for conclusions [only] as to peripheral issues." *Id.* at 1385-86, 59 USPQ2d at 1697. As the court held in *Zurko*, an assessment of basic knowledge and common sense that is not based on any evidence in the record lacks substantial evidence support. *Id.* at 1385, 59 USPQ2d at 1697.

Request for Evidentiary Support

Should a rejection based on any of the above asserted rejections be maintained, Applicants respectfully request appropriate evidentiary support. Additionally, if the Examiner is relying upon "common knowledge" or "well known" principles to establish the rejection, Applicants request that a reference be provided in support of this position pursuant to MPEP § 2144.03. Furthermore, to the extent that the Examiner maintains any rejection based on an "Official Notice" or other information within the Examiner's personal knowledge, Applicants respectfully request that the Examiner cite a reference as documentary evidence in support of this position or provide an affidavit in accordance with MPEP § 2144.03 and 37 C.F.R. 1.104(d)(2).

No Waiver

All of above arguments and amendments are made without prejudice or disclaimer. Additionally, Applicants have merely discussed example distinctions from the references relied upon. Other distinctions may exist, and Applicants reserve the right to discuss these additional distinctions in a later Response or on Appeal, if appropriate. By not responding to additional statements made by the Examiner, Applicants do not acquiesce to the Examiner's additional statements. The example distinctions discussed by Applicants are deemed sufficient to overcome the rejections asserted in the present Office Action.

Applicants reserve the right to subsequently take up prosecution on the claims as originally filed in this or appropriate continuation, continuation-in-part and/or divisional applications.

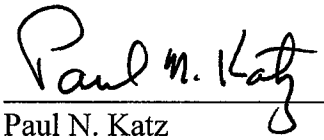
Applicants respectfully request reconsideration in light of the amendments and remarks contained herein.

Applicants respectfully request withdrawal of all objections and rejections, and that there be an early notice of allowance.

SUMMARY

In light of the above amendments and remarks, Applicants respectfully submit that the application is now in condition for allowance and early notice of the same is earnestly solicited. Should the Examiner have any questions, comments or suggestions in furtherance of the prosecution of this application, the Examiner is invited to contact the attorney of record by telephone or facsimile.

Respectfully submitted,



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